

## CLAIMS:

1. An impedance transformation circuit (10; 11a; 11b; 12) with a first contact pad (51) and a second contact pad (52) being spaced-apart and formed on a substrate (20), comprising at least a first circuit element (40) providing a contact area (41) formed on the substrate (20) and being arranged adjacent and between the first (51) and the second (52)  
5 contact pad, a first wire element (31) extending over the substrate (20) connecting the first contact pad (51) and a first end portion (41a) of the contact area (41) of the first circuit element (41), and at least a second wire element (32) extending over the substrate (20) connecting the second contact pad (52) and a second end portion (41b) of the contact area (41) of the first circuit element (40), wherein the contact area (41) of the first circuit  
10 element (41) is shaped to provide a capacitive connection with a predetermined capacitance between the contact area (41) and a fixed reference potential.
2. The impedance transformation circuit (10; 11a; 11b; 12) according to claim 1,  
15 wherein the first wire element (31) and the at least second wire element (32) have the same shape and are arranged substantially in parallel to each other.
3. The impedance transformation circuit (10; 11a; 11b; 12) according to claim 1  
20 or 2, wherein the first contact pad (51) and the second contact pad (52) are located at opposite sides of the contact area (41) of the at least first circuit element (40).
4. The impedance transformation circuit (10; 11a; 11b; 12) according to one of  
the claims 1 to 3, wherein the first circuit element (40) is a metal oxide semiconductor  
(MOS) capacitor.
- 25 5. The impedance transformation circuit (11b) according to one of the preceding  
claims, wherein the substrate (20) is arranged on a metal layer (22), which is connected  
to a fixed reference potential.

6. The impedance transformation circuit according to one of the preceding claims, wherein the fixed reference potential is ground potential.
7. The impedance transformation circuit (10; 11a; 11b; 12) according to one the  
5 preceding claims, wherein the wire elements (31, 32; 31, 32, 36; 31, 32, 33, 34) are bond wires.
8. The impedance transformation circuit (10; 11a; 11b; 12) according to one the  
10 preceding claims, wherein the first contact pad (51) is an input connection and the second contact pad (52) is an output connection of the impedance transformation circuit (10; 11a; 11b; 12).
9. The impedance transformation circuit (11a; 11b) according to one of the  
15 claims 1 to 8, further comprising a second circuit element (60) located on the substrate (20) and having a first terminal and a second terminal, the second circuit element (60) having a predetermined capacitance value and being arranged to provide a capacitive connection between the first contact pad (51) and the second contact pad (52), wherein the first terminal is connected to the first contact pad (51) and the second terminal is connected to the second contact pad (52).  
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10. The impedance transformation circuit (11a; 11b) according to claim 9, wherein  
at least one of the first terminal and the second terminal is connected to the respective one of the first and second contact pads (51, 52) via a wire element (36) extending over the substrate.  
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11. The impedance transformation circuit (11a; 11b) according to claim 9 or 10, wherein the second circuit element (60) is a thin film capacitor.
12. The impedance transformation circuit according to claim 9 or 10, wherein the  
30 second circuit element is a capacitor formed by coupled strip lines on the substrate.
13. A multi-coupled wire impedance transformation circuit (12), comprising at least a first (16) and a second (18) impedance transformation circuits according to one of the claims 1 to 12 arranged adjacent to each other on a single substrate (20), wherein the

first (16) and the second (18) impedance transformation circuits are electrically connected in parallel to each other by the respective first contact pads (51, 53) and second contact pads (52, 54) of the first and second impedance transformation circuits (16, 18).

- 5 14. The multi-coupled wire impedance transformation circuit (12) according to claim 13, wherein the wire elements (31, 32, 33, 34) are arranged with respect to each other such that there is provided a predetermined capacitive and inductive coupling between adjacent wire elements.
- 10 15. A radio frequency device, which comprises functional radio frequency circuitry, having at least one a passive circuit block for at least one of impedance matching and frequency filtering, the passive circuit block comprising an impedance transformation circuit according to one of the claims 1 to 14.
- 15 16. The radio frequency device according to claim 15, wherein the radio frequency device is a mobile phone, a base station for radio access networks, or a signal converter in cable television (CATV) receivers.